



Northern States Power Company

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October 24, 1984

Director of Nuclear Reactor Regulation  
U S Nuclear Regulatory Commission  
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT  
Docket Nos. 50-282 License Nos. DPR-42  
50-306 DPR-60

Elimination of Large Reactor Coolant System Pipe  
Ruptures from Structural Design Basis

In our letter dated June 15, 1984 we informed the Commission that we would contract with Westinghouse Electric Company to perform a mechanistic fracture mechanics evaluation for the reactor coolant loops to justify eliminating postulating large breaks for structural design purposes. This analysis would serve as the basis for an exemption request from the requirements of GDC-4 of Appendix A to 10 CFR Part 50 as permitted by NRC Generic Letter 84-04 dated February 1, 1984. The purpose of this letter is to provide, for the information of the NRC Staff, the Westinghouse analytical results for Unit No. 1 and the status of the Unit 2 analytical work.

Forty copies of this letter and Westinghouse Report WCAP 10640, "Technical Bases for Eliminating Large Primary Loop Pipe Rupture as the Structural Design Basis for Prairie Island Unit 1", September, 1984 are provided. Ten copies of the proprietary version of this report, WCAP 10639, are also attached. WCAP 10639 should be withheld from public disclosure in accordance with Section 2.790 of the Commission's regulations. An affidavit signed by Westinghouse, the owner of this information, is attached.

The attached Westinghouse report addresses only Unit 1. Westinghouse has found that for some of the Unit 2 primary loop piping, the projected end-of-life toughness falls below the benchmark toughness of the worst case thermally-aged material. The Unit 2 piping material thus could not be entirely qualified as has been done for the Unit 1 piping. We are now working with Westinghouse on alternatives available for Unit 2.

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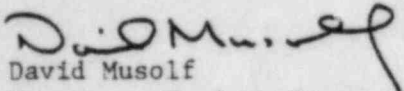
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Director of NRR  
October 24, 1984  
Page 2

Northern States Power Company

At this time, Northern States Power Company believes that an analysis for Unit 2 can be performed. Additional evaluation or testing will be necessary. No firm schedule for resolving this matter has been determined at this time. We will continue to keep our Project Manager in the Division of Licensing informed of our schedule for completing the Unit 2 work. An exemption request from GDC-4 will be submitted following the completion of the Unit 2 analysis.

Please contact us if you have any questions related to the information we have provided.

  
David Musolf  
Manager - Nuclear Support Services

DMM/dab

c: Regional Administrator-III, NRC  
NRR Project Manager, NRC  
Resident Inspector, NRC  
G Charnoff

Attachments: (1) WCAP-10640 (40 copies)  
(2) Affidavit supporting non-disclosure of WCAP-10639  
(3) WCAP-10639 (10 copies) - Westinghouse Proprietary

ATTACHMENT (3) CONTAINS 10 CFR PART 2, SECTION 2.790 MATERIAL NOT TO BE  
PLACED IN PUBLIC DOCUMENT ROOM